AMENDMENT

Please cancel all pending claims, without prejudice, and insert the following new claims 105-135:

--105. A method for preparing a DNA molecule comprising the steps of:

a) obtaining a sample of DNA wherein the sample includes DNA fragments that do not include a 3' hydroxyl group; and

b) conditioning DNA fragments of the sample that lack a 3' hydroxyl by incorporating a 3' hydroxyl group thereon.

106. The method of claim 105, wherein DNA molecules of the DNA sample have been fragmented.

107. The method of claim 106, wherein the DNA molecules have been fragmented by physical means.

108. The method of claim 107, wherein the DNA molecules have been fragmented by sonication.

109. The method of claim 107, wherein the DNA molecules have been fragmented by nebulization.

110. The method of claim 107, wherein the DNA molecules have been fragmented by hydrodynamic shear.

111. The method of claim 107, wherein the DNA molecules have been fragmented by freezing and thawing.

112. The method of claim 106, wherein the DNA molecules have been fragmented by chemical means.

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113. The method of claim 107, wherein the DNA molecules have been fragmented through a reaction that includes hydroxyl radicals.

114. The method of claim 113, wherein the DNA molecules have been fragmented through treatment with a Fenton reagent.

115. The method of claim 114, wherein the Fenton reagent comprises a metal ion chelating agent and a divalent metal ion.

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116. The method of claim 106, wherein the DNA molecules have been fragmented by enzymatic means.

117. The method of claim 116, wherein the DNA molecules have been fragmented using an endonuclease.

118. The method of claim 116, wherein the DNA molecules have been fragmented through the use of a restriction endonuclease.

119. The method of claim 118, wherein the DNA molecules have been fragmented through the use of a restriction endonuclease having a two base recognition sequence.

120. The method of claim 118, wherein the DNA molecules have been fragmented through the use of a restriction endonuclease having a four base recognition sequence.

121. The method of claim 118, wherein the restriction endonuclease has introduced random double strand breaks into DNA molecules.

122. The method of claim 117, wherein the endonuclease introduced a blunt end.

123. The method of claim 105, wherein DNA fragments that lack a 3' hydroxyl are conditioned through the use of a 3' exonuclease.

124. The method of claim 123, wherein the 3' exonuclease is exonuclease III.

125. The method of claim 105, wherein the DNA fragments that lack a 3' hydroxyl are conditioned through the use of a DNA polymerase that possesses 3' to 5' exonuclease activity.

126. The method of claim 105, further comprising attaching an oligonucleotide adaptor to the conditioned DNA fragments.

127. The method of claim 126, wherein the oligonucleotide adaptor is a double-stranded oligonucleotide adaptor.

128. The method of claim 127, wherein the double-stranded oligonucleotide adaptor is attached to the conditioned DNA by only one of its two strands.

129. The method of claim 128, wherein the double stranded adaptor is attached to the conditioned DNA by means of a 5' terminus of the adaptor.

130. The method of claim 129, wherein the double-stranded oligonucleotide adaptor is blocked at at least one of its 3' termini.

131. The method of claim 130, wherein the double-stranded oligonucleotide adaptor is blocked at both of its 3' termini.

132. The method of claim 105, wherein the conditioned DNA fragments are amplified.

133. The method of claim 132, wherein DNA fragments are amplified through a PCR reaction.

134. The method of claim 133, wherein the DNA fragments are amplified through a PCR reaction through the use of double-stranded adaptors that have been attached to the conditioned DNA fragments.